

AMENDMENTS TO THE CLAIMS

Prior to the present communication, claims 1-66 were pending in the subject application. Each of claims 1-21, 23-43, and 45-59 has been amended herein, while no claims have been cancelled or added. Thus, claims 1-66 remain pending. It is respectfully submitted that no new matter has been added by way of the present amendments. All claims currently pending and under consideration in the present application are shown below. This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method for automating the optimization of search results displayed in a search Web page, the method comprising:

~~providing-receiving~~ search results ~~to users of a~~ provided from a search engine to a user according to a search term, wherein the search results are selected and ranked by a relevance schema;

~~collecting data that represents a performance of a search result~~ each of the received search results, the collected data quantifying interactions of various users with the search results, the collected data originating from at least one of a plurality of various sources having various types of valuations of performance data that includes implicit data collected by quantifying the user's interactions with the search results;

~~combining-normalizing~~ the collected data by a normalization procedure that describes the user's interactions with the search results in accordance with a relative importance of the source of the data that generates performance data for

each of the search results, wherein the performance data reflects behavior of the various users, and wherein the normalization procedure comprises:

(1) aggregating the collected data from the various sources;

(2) compiling various types of valuations, associated with the aggregated data, into common measurements;

(3) weighting the common measurements based on relative importance of the various sources, wherein the relative performance is a reflection of the value of each of the various sources as a predictor of relevance of the search results; and

(4) normalizing the weighted common measurements to determine performance data associated with each of the search results such that the search results are comparable against each other and search results indicated by expected performance data;

determining whether the expected performance data is below the normalized performance data by comparing the normalized performance data to an the expected performance data for each of the search results;

when the normalized performance data of a search result of the search results is below the expected performance data associated therewith, identifying the search result as underperforming and diagnosing at least one possible cause for an the underperforming search result from based on the results of the comparison between the normalized performance data and the expected performance data; and

updating the relevance schema based on the diagnosis such that adjusting
~~an~~ operation of a search engine that ~~produced~~ provided the search results is
adjusted in accordance with the diagnosis to improve relevance of the subsequent
search results performance, ~~the adjustment operative to give greater significance~~
~~to collected performance data from at least one of the sources when normalizing~~
~~the data.~~

2. (Currently Amended) The method of Claim 1, wherein the ~~at least one of~~
~~the plurality of various~~ sources of performance data includes one of an implicit performance
data, an explicit performance data, a human-judged performance data, a relevance verification
data, and a sample test data.

3. (Currently Amended) The method of Claim 1, wherein the normalization
procedure normalizing the collected data in accordance with a relative importance of the source
of the data includes giving greater weight to the collected data that describes ~~the a~~ user's
interactions that receives the search results in relation to the various users ~~with the search results~~
~~and combining the data to reflect the relative importance of the source from which the data~~
~~originated.~~

4. (Currently Amended) The method of Claim 2, wherein comparing the
normalized performance data ~~to against~~ the expected performance data includes ~~determining that~~
identifying the search result is as underperforming when the normalized performance data for the
search result is ~~below~~ a quantified threshold below the expected performance data.

5. (Currently Amended) The method of Claim 2, wherein the most important source of data is implicit performance data, and ~~normalizing the collected data~~ the normalization procedure includes giving the implicit performance data greater weight when combining the collected data.

6. (Currently Amended) The method of Claim 25, wherein the implicit performance data is automatically captured when a user that is provided the search results interacts with the search results.

7. (Currently Amended) The method of Claim 6, wherein the implicit performance data includes at least one of whether the user clicked on the result, a location of the result when the user clicked the result, and a length of time that the user browsed the result.

8. (Currently Amended) The method of Claim 7, wherein the implicit performance data further identifies an operation that the user performed on the result, including at least one of editing, e-mailing, printing, bookmarking, and copying.

9. (Currently Amended) The method of Claim 6, wherein the implicit performance data includes captured data that has been aggregated across multiple interactions with the search result.

10. (Currently Amended) The method of Claim 6, wherein the implicit performance data includes captured data that has been aggregated across multiple users interacting with the search result.

11. (Currently Amended) The method of Claim 2, wherein the explicit performance data includes data obtained from at least one user responses to a search engine operator-generated inquiry about the search results, wherein the inquiry includes one of an on-line inquiry and a telephone inquiry.

12. (Currently Amended) The method of Claim 2, wherein the human-judged performance data includes data obtained from a human evaluation of the search result.

13. (Currently Amended) The method of Claim 2, wherein the relevance verification data includes data obtained from a verification test of the search result's relevance to verify whether a search result having a known relevance is still included in the search result generated by the search engine.

14. (Currently Amended) The method of Claim 2, wherein the sample test data includes data obtained from a test of the search result's relevance performed on a sample of a subset of users.

15. (Currently Amended) The method of Claim 2, wherein diagnosing at least one possible cause for ~~an~~the underperforming search result includes making the following determinations:

determine at least one of whether the search result is no longer valid;

determine whether the search result appears in a poor location;

determine whether the search term that generated the search result is easily

misspelled; and

determine whether a search for the search term should be constrained to a specific resource

~~considering at least one of whether the search result is no longer valid, whether the search result appears in a poor location, whether a search term that generated the search result is easily misspelled, whether the search term is too broad to generate a meaningful result, and whether a search for the search term should be constrained to a specific resource.~~

16. (Currently Amended) The method of Claim 2, wherein adjusting ~~an~~ the operation of a the search engine that ~~produced~~ provided the search results in accordance with the diagnosis ~~to improve the search result performance~~, includes modifying the search engine's search schema to change the subsequent search result generated for the search term, ~~including at least one of~~ by reranking, removing, ~~and or~~ replacing the search results.

17. (Currently Amended) The method of Claim 2, wherein adjusting ~~an~~ the operation of a the search engine that ~~produced~~ provided the search results in accordance with the diagnosis ~~to improve the search result performance~~, includes modifying the search engine's search schema to augment a presentation of the search results generated for the search term, including at least one of highlighting, animating, enlarging, and repositioning an appearance of the search result on a search results web page.

18. (Currently Amended) The method of Claim 2, wherein adjusting ~~an~~ the operation of a the search engine that ~~produced~~ provided the search results in accordance with the diagnosis ~~to improve the search result performance~~, includes increasing the search engine's spellchecker tolerance.

19. (Currently Amended) The method of Claim 2, wherein adjusting ~~an~~ the operation of a the search engine that ~~produced~~ provided the search results in accordance with the diagnosis ~~to improve the search result performance~~, includes prompting the user to one of clarify or narrow the search term with an additional user input.

20. (Currently Amended) The method of Claim 2, wherein adjusting ~~an~~ the operation of a the search engine that ~~produced~~ provided the search results in accordance with the diagnosis ~~to improve the search result performance~~, includes temporarily adjusting the operation of the search engine, and determining whether the adjustments have actually improved the search result performance before permanently adjusting the operation of the search engine.

21. (Currently Amended) The method of Claim 2, wherein adjusting ~~an~~ the operation of a the search engine that ~~produced~~ provided the search results in accordance with the diagnosis ~~to improve the search result performance~~, includes adjusting the operation of the search engine in real time.

22. (Original) The method of Claim 21, wherein adjusting the operation of the search engine in real time includes intercepting the search result generated by the search engine and modifying the search result before the search engine displays the search result to the user.

23. (Currently Amended) An automated search result optimization system implemented in a computer that provides search results to a user, comprising:

an input component to receive ~~an~~ input data representing a performance of a search result generated by a search engine that is executed on the computer for a search term, the input data originating from a plurality of various sources;

a data collection processor to collect the input performance data from the plurality of various sources wherein the input data collected includes implicit performance data that describes an aggregation of the user's various user interactions during various sessions with the search result;

a ~~diagnostic-comparison~~ processor to compare a ~~the collected input performance data~~ of the search result, ~~as represented by the collected performance data,~~ to an expected performance of the search result; and

a diagnostic processor to determine, based on the comparison, whether the collected input performance data diverges from the expected performance by a quantified threshold, and if so, identify the search result as underperforming and diagnose the underperforming search result utilizing results of the comparison to select from a set of predefined corrective actions, wherein one of the set of corrective actions is implementing an adjustment processor; and

~~an the adjustment processor to generate an output data representing an action to automatically adjust an operation of the search engine whenever the search result performance diverges a quantified threshold from the expected performance,~~

wherein the adjusted operation of the search engine ~~is to improve~~ the performance of the search result by tailoring a ranking of subsequent search results in accordance with the collected input performance data,[[;]] and

~~wherein the adjustment gives greater significance an increased weight is attached to the collected input performance data from one or more of the various sources based on the implicit performance data thereby influencing the automatic~~

adjustment of the operation of the search engine ~~that describes the user's interactions with the search result.~~

24. (Currently Amended) The system of Claim 23, wherein the at least one of the plurality of sources of input performance data includes one of ~~an~~ the implicit performance data, an explicit performance data, a human-judged performance data, a relevance verification data, and a sample test data.

25. (Currently Amended) The system of Claim 23, wherein the data collection process includes a normalizing process to normalize the collected data in accordance with a relative importance of ~~the~~ a source of the collected data within the plurality of various sources, and further wherein normalizing includes giving greater weight to the collected data from the more important sources and combining the collected data to reflect the relative importance of the source from which the collected data originated.

26. (Currently Amended) The system of Claim 25, wherein the diagnostic processor compares the performance of the search result as represented by the normalized collected performance data to ~~an~~ the expected performance of the search result; ~~and further, and~~ wherein the ~~comparison is unfavorable~~ the search result is underperforming when the performance is lower than ~~a~~ the quantified threshold ~~value~~ below the expected performance.

27. (Currently Amended) The system of Claim 25, wherein the most important source of data is implicit performance data, and normalizing the collected input performance data includes giving the implicit performance data greater weight, in relation to a balance of the collected input performance data, when combining the data.

28. (Currently Amended) The system of Claim 27, wherein the implicit performance data is automatically captured when ~~a~~the user interacts with the search result.

29. (Currently Amended) The system of Claim 28, wherein the implicit performance data includes at least one of whether the user clicked on the search result, a location of the search result when the user clicked the search result, and a length of time that the user browsed the search result.

30. (Currently Amended) The system of Claim 29, wherein the implicit performance data further includes data representing an identification of an operation that the user performed on the search result, including at least one of editing, e-mailing, printing, bookmarking, and copying.

31. (Currently Amended) The system of Claim 28, wherein the implicit performance data includes captured data that has been aggregated across multiple interactions with the search result.

32. (Currently Amended) The system of Claim 28, wherein the implicit performance data includes captured data that has been aggregated across multiple users interacting with the search result.

33. (Currently Amended) The system of Claim 24, wherein the explicit performance data includes data obtained from the user's response to a search engine operator-generated user-satisfaction survey about the search result.

34. (Currently Amended) The system of Claim 24, wherein the human-judged performance data includes data obtained from a human evaluation of the search result.

35. (Currently Amended) The system of Claim 24, wherein the relevance verification data includes data obtained from a verification test of the search result's relevance to verify whether a search result having a known relevance is still included in the search result generated by the search engine.

36. (Currently Amended) The system of Claim 24, wherein the sample test data includes data obtained from a test of the search result's relevance performed on a sample of a subset of users.

37. (Currently Amended) The system of Claim 24, wherein the ~~diagnostic~~ process-diagnostic process is further configured to further includes diagnosing-diagnose at least one possible reason why the performance of the underperforming search result compares unfavorably ~~to~~ against the expected performance, wherein the reason is determined upon executing one or more of a set of processes comprising, including ~~considering at least one of~~ whether the search result is no longer valid, considering whether the search result appears in a poor location, whether a search term that generated the search result is easily misspelled, considering whether the search term is too broad to generate a meaningful result, ~~and or~~ considering whether a search for the search term should be constrained to a specific resource.

38. (Currently Amended) The system of Claim 23, wherein the adjustment processor is further configured to generate ~~an output data representing an action to automatically adjust an operation of the search engine,~~ includes generating output data that represents an action to modify the search engine's search schema, wherein the modified search schema changes the way the search engine generates ~~a search results~~ for a search term, including at least one of reranking, removing, and replacing the search result.

39. (Currently Amended) The system of Claim 23, wherein the adjustment processor is further configured to generate ~~an output data representing an action to automatically adjust an operation of the search engine,~~ includes generating output data that represents an action to modify the search engine's search schema, wherein the modified search schema augments the way the search engine presents the search result for a search term, including at least one of highlighting, animating, enlarging, and repositioning an appearance of the search result on a search result Web page.

40. (Currently Amended) The system of Claim 23, wherein the adjustment processor is further configured to generate ~~an output data representing an action to automatically adjust an operation of the search engine,~~ includes generating output data that represents an action to increase the search engine's spellchecker tolerance ~~without changing the spelling or creating a variation of the search term.~~

41. (Currently Amended) The system of Claim 23, wherein the adjustment processor is further configured to generate ~~an output data representing an action to automatically adjust an operation of the search engine,~~ includes generating output data that represents an action to prompt the user to one of clarify or narrow the search term with an additional user input.

42. (Currently Amended) The system of Claim 23, wherein the adjustment processor is further configured to generate ~~an output data representing an action to automatically adjust an operation of the search engine,~~ includes generating output data that represents an action to temporarily adjust the operation of the search engine, and to further determine whether the temporary adjustment has actually improved the search result performance before generating an action to permanently adjust the operation of the search engine.

43. (Currently Amended) The system of Claim 23, wherein the adjustment processor is further configured to generate ~~an output data representing an action to automatically adjust an operation of the search engine,~~ includes generating output data that represents an action to adjust the operation of the search engine in real time.

44. (Previously Presented) The system of Claim 43 wherein the action to adjust the operation of the search engine in real time includes an action to intercept the search result generated by the search engine and to further modify the search result before the search engine displays the search result to the user.

45. (Currently Amended) One or more computer-accessible media having instructions stored on the media for facilitating the automated optimization of a search result in a search result user interface, the instructions comprising:

~~providing receiving~~ search results ~~to users of a~~ provided by a search engine in response to an inputted search term from a user;

collecting data that represents a performance of ~~a~~ each search result of the search results from at least one of a plurality of various sources of performance

data that includes implicit data collected by quantifying ~~the user's interactions of~~
various users during various sessions with each of the search results;

normalizing the collected performance data ~~that describes the user's~~
~~interactions with the search results~~ in accordance with a relative importance
associated with each of the various sources ~~source~~ of the performance data,
wherein normalizing comprises formatting the performance data in a common
measurement that is associated with each of the search results such that the search
results are comparable against each other and search results associated with
expected performance data;

comparing the normalized performance data ~~to an~~ against the expected
performance data for the search result;

based on the comparison, determining whether the collected performance
data diverges from the expected performance by a quantified threshold and
identifying a search result, of the search results, as underperforming when it is
associated with divergent collected performance data;

diagnosing at least one possible cause for ~~an~~ the underperforming search
result based on a result of the comparison between the normalized performance
data and the expected performance data; ~~and~~

utilizing the at least one possible cause to select from a set of predefined
corrective actions, wherein one of the set of corrective actions is adjusting an
operation of the search engine ~~adjusting an operation of a search engine that~~
~~produced the search result~~ in accordance with the diagnosis ~~to improve the search~~
~~result performance, the adjustment operative to give greater significance to~~

collected performance data ~~from at least one of the sources when normalizing the~~
~~data.~~

46. (Currently Amended) The computer-accessible media of Claim 45, wherein the at least one of the plurality of various sources of performance data includes one of ~~an~~the implicit performance data, an explicit performance data, a human-judged performance data, a relevance verification data, and a sample test data.

47. (Currently Amended) The computer-accessible media of Claim 45, wherein the instruction to normalize the collected data that describes the user's interactions with the search results in accordance with a relative importance of the source of the data includes instructions to give greater weight to the data from the more important sources of the at least one of the plurality of various sources and to combine the data to reflect the relative importance of the source from which the data originated.

48. (Currently Amended) The computer-accessible media of Claim 45, wherein the instruction to compare the normalized performance data to the expected performance data includes an instruction to determine that the search result is underperforming when the normalized performance is ~~below a~~the quantified threshold ~~value~~below the expected performance.

49. (Currently Amended) The computer-accessible media of Claim 47, wherein the most important source of data is the implicit performance data, and the instruction to normalize the collected data includes an instruction to give implicit performance data greater weight when combining the data.

50. (Currently Amended) The computer-accessible media of Claim 46, wherein the implicit performance data is data that is automatically captured by a search engine when a user interacts with a search result.

51. (Currently Amended) The computer-accessible media of Claim 50, wherein the implicit performance data includes data that represents at least one of whether the user clicked on the result, a location of the result when the user clicked the result, and a length of time that the user browsed the result.

52. (Currently Amended) The computer-accessible media of Claim 50, wherein the implicit performance data further identifies an operation that the user performed on the result, including at least one of editing, e-mailing, printing, bookmarking, and copying.

53. (Currently Amended) The computer-accessible media of Claim 50, wherein the implicit performance data includes captured data that has been aggregated across multiple interactions with the search result.

54. (Currently Amended) The computer-accessible media of Claim 50, wherein the implicit performance data includes captured data that has been aggregated across multiple users interacting with the search result.

55. (Currently Amended) The computer-accessible media of Claim 46, wherein the explicit performance data includes data obtained from the user's response to a search engine operator-generated inquiry about the search result, wherein the inquiry includes one of an on-line inquiry and a telephone inquiry.

56. (Currently Amended) The computer-accessible media of Claim 46, wherein the human-judged performance data includes data obtained from a human evaluation of the search result.

57. (Currently Amended) The computer-accessible media of Claim 46, wherein the relevance verification data includes data obtained from a verification test of the search result's relevance to verify whether a search result having a known relevance is still included in the search result generated by the search engine.

58. (Currently Amended) The computer-accessible media of Claim 46, wherein the sample test data includes data obtained from a test of the search result's relevance performed on a sample of a subset of users.

59. (Currently Amended) The computer-accessible media of Claim 45, wherein diagnosing at least one possible cause for an underperforming search result includes generating an instruction to make the following determinations:

determine at least one of whether the search result is no longer valid[[,]]; determine

determine whether the search result appears in a poor location; ~~and~~

determine whether a ~~the~~ search term that generated the search result is easily misspelled; and

determine whether a search for the search term should be constrained to a specific resource.

60. (Original) The computer-accessible media of Claim 45, wherein the instruction to adjust the operation of the search engine that produced the search result in accordance with the diagnosis, includes an instruction to modify the search engine's search schema to change the search result generated for the search term, wherein to change the search result includes at least one of to rerank, remove, and replace the search result.

61. (Original) The computer-accessible media of Claim 45, wherein the instruction to adjust the operation of the search engine that produced the search result in accordance with the diagnosis, includes an instruction to modify the search engine's search schema to augment a presentation of the search result generated for the search term, wherein to augment the presentation includes at least one of to highlight, animate, enlarge, and reposition a display of the search result on a search result Web page.

62. (Original) The computer-accessible media of Claim 45, wherein the instruction to adjust the operation of the search engine that produced the search result in accordance with the diagnosis, includes an instruction to increase the search engine's spellchecker tolerance.

63. (Original) The computer-accessible media of Claim 45, wherein the instruction to adjust the operation of the search engine that produced the search result in accordance with the diagnosis, includes an instruction to prompt the user to one of clarify or narrow the search term with an additional user input.

64. (Original) The computer-accessible media of Claim 45, wherein the instruction to adjust the operation of the search engine that produced the search result in accordance with the diagnosis, includes an instruction to temporarily adjust the operation of the search engine, and an instruction to further determine whether the adjustments have actually improved the search result performance before performing an instruction to permanently adjust the operation of the search engine.

65. (Original) The computer-accessible media of Claim 45, wherein the instruction to adjust the operation of the search engine that produced the search result in accordance with the diagnosis, includes an instruction to adjust the operation of the search engine in real time.

66. (Original) The computer-accessible media of Claim 65, wherein the instruction to adjust the operation of the search engine in real time includes an instruction to intercept the search result generated by the search engine and a further instruction to modify the search result before the search engine displays the search result to the user.